PUBLIC TRANSPORTATION

Activity Title:

Redefine StarTran's Operational Approach and Increase Services

Activity Purpose and Overview:

The purpose of this MMT recommendation is to complete a series of proposed near term changes in StarTran's current fixed route services and to redefine over the longer term how StarTran operates its fix route services.

StarTran's fixed route transit services form the core of the system's operation. StarTran's 20 regular transit routes (and Downtown circulator) transported nearly 1.5 million passengers each year. This accounts for nearly 97 percent of all the passenger trips carry on the system. This service operates six days a week (excluding Sunday), from 5:15 a.m. to 7:10 p.m. on weekdays and 5:5 a.m. to 7:10 p.m. on Saturdays. During these period, StarTran equipment travels almost 1.4 million miles.

Implementation of the recommendations spelled out in this section of the Report would result in: (1) StarTran service adjustments (i.e., route additions and deletions, and expanded service) over the coming year; and (2) a critical reassessment of how StarTran presently provides fixed route services with the potential for wholesale changes in the system's operational approach.

Activity Description:

The section takes a closer look at the near term changes in routes and services in StarTran recommended by the Multi-Modal Transportation Task Force and at how the future fixed route operations of StarTran can be examined and changes implemented.

Recommended Near Term StarTran Service Changes

(To be provided.)

The Future of StarTran's Fixed Route Services

StarTran's fixed route services stand at a crossroads. The basic route structure presently operated by StarTran has changed little over the past half a century. The system's 20 major routes largely mirror the streetcar/bus system operated well into the middle of the mid-20th century. Modest service refinements and route extensions has been made resulting mostly from year's of urban growth and shifts in land uses across the city.

Near term changes in StarTran operations have been recommended as part of this Report. These changes should be made **immediately** and their impacts on ridership, revenues, and overall service levels carefully monitored and critiqued.

These operational changes notwithstanding, **StarTran must also aggressively re-think the approach it currently employees in providing transit services to the citizens of Lincoln.** The community's shifting travel behavior, changing user markets, and expanding access to other modes have radically altered the public's perception – and resulting usage – of transit services.

NOW is the time to critically examine the StarTran's present service design and, as appropriate, take **bold and decisive steps** to revamp StarTran into a 21st century transportation provider it is capable of being.

This effort will take time, resources, and, perhaps most all, <u>the community's willingness to change how StarTran delivers fixed route services</u>. There will be clear divisions of opinion on how best to pursue alterative courses of action for StarTran. Change does not come easily, nor without a price. The

community must be prepared to address this matter candidly and forthrightly. **Hard choices will have to be made.** Not everyone's interests can be service - and not everyone's wishes met.

Changing the way StarTran provide traditional transit services will require the City to address not only the service on the streets of Lincoln but other public polices as well – such as the level and continuity of funding for transit operations, overall transportation administration and management, and land use and development goals.

While many of these latter issues are discussed separately in this Report, this section of the Report tackles the difficult question of **how best to reposition StarTran** as Lincoln's public transportation system for generations to come. This section outlines a process for establishing a "Transit Operations Action Plan" for StarTran – in short, a strategy for offering transit services reflecting the needs of a growing and evolving community possessing a diversify of mobility needs and challenges.

StarTran Operational Action Plan Approach

Assuming funds are available, within a year and a half from the acceptance of this Report by the elected officials, a draft "StarTran Operational Action Plan" for StarTran should be delivered to the Mayor and Lincoln City Council. This Action Plan should delineate a detailed multi-year program for revamping of StarTran's service approach. This service approach should consider both the near (i.e., two year) and longer term (i.e., five to twelve years) transportation and mobility requirements of the community, as well as provide for the logical transformation of StarTran services to meet these mobility needs.

Completion of StarTran's Operations Action Plan can be undertaken following a four step process:

1. **Service Standards and Policies.** These basic programming elements articulate the community's perception of what makes up a reasonable and acceptable level of transit service. They are policy guidelines defining the quality of the serve as well as minimum performance levels. The objective of this task is to develop service standards and policies to serve as the basis for evaluating current services and to guide the design or new or improved services. The two general categories of standards to be developed include:

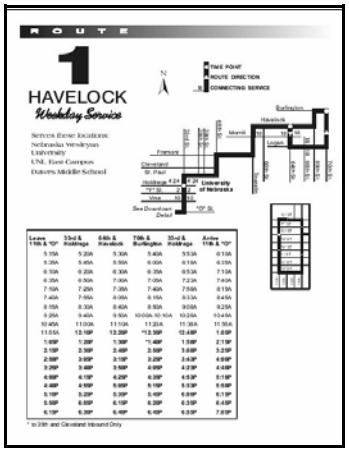
- **Service Design Standards** guide the design of the services. These standards include service availability, service directness, frequency, and span (e.g., hours and days) of service.

- **Service Performance Standards** help assess the productivity of existing services. These standards include on-time performance, passenger utilization, and farebox return.

The service standards and policies should be developed, reviewed, and agreed to by key community stakeholders, users of the bus service, the Mayor, City Council, and city staff.

2. **Service Assessment.** The second task examines deficiencies in current services and identifies opportunities for new services and/or service improvements. This task relies heavily on the service standards and policies established in the previous task. This step also assesses StarTran passenger usage data by time-of-day, local demographic data, travel behavior information, and land use/activity patterns and trends.

3. **Service Options.** This task takes a hard look at the operational options available to StarTran for delivering public transit services. This critical review builds upon the previous two tasks by integrating considering service design standards and performance standards relative to a range of operational techniques. (A fuller description of the type of service approaches that could be considered as part of this analysis are described later in this section.) Various issues to be considered as part task include:



- **Operational Factors.** These can include adjusting service headways, turnbacks or short-turning of buses to optimize equipment utilization, and route branching (or trimming) to provide a desirable level of coverage while economizing no the number of buses required.

- **Scheduling Adjustments.** These can include running time adjustments to improve on-time performance, schedule

coordination to improve transfer connections, and space of service modifications.

- **Routing Improvements.** These can include route extensions to respond to existing and proposed development; route modifications to possibly improve service directness and on-time performance; and new routes to satisfy present and prospective needs.

- **System Changes.** These can include service redistribution to improve overall efficiency by re-allocating resources from less productive areas and/or routes. Other service type changes may be reviewed to determine whether or not fixed route service or demand responsive service is a more appropriate mode for selected markets.

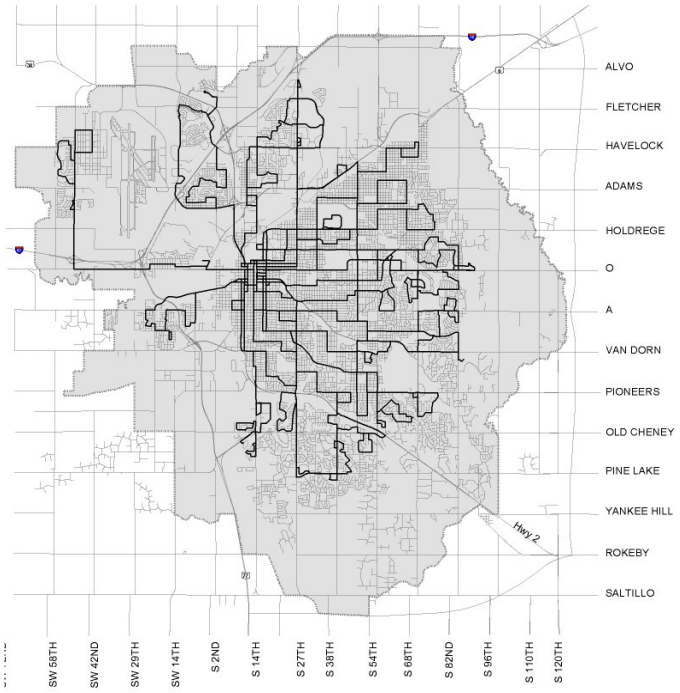
4. **Recommended StarTran Operational Action Plan.** The result of this effort would be a detailed "StarTran Operations Action Plan" for StarTran to follow in implementing a revised service delivery approach. This Strategy should include specific routing and service design findings and an analysis of the financial commitment required to complete the operational transition and sustain operations. Also, the recommendations should include a description of a marketing and informational program to ensure that the StarTran user community understands the changes being made in the system and how to effectively utilize the re-designed services.

Operational Design Options

The "StarTran Operational Action Plan" described above should seriously consideration a wide range of options for delivering StarTran services. This section briefly outlines number of approaches employed by public transportation operators to deliver services to their ridership. The Action Plan may not need to evaluation all of the options shown below, but should review a variety of potential service design options so their potential can be assessed against the Lincoln transit market. The design options that might be considered include:

- **"Radial Pulse System" with Downtown as Single Hub** – At one time or another, most American communities have operated a "radial pulse system" with transit services focusing on their downtown. Downtowns

have long been the focal point of transit operations – they were traditionally the central of commercial and retail for most cities. This has long been the approach used in Lincoln and remains the basis of transit services to this day.



This service approach brings virtually all of the routes into the downtown area to meet at a central location. Ideally, services are timed so the buses converge at about the same time at a single stop. This approach allows passenger not destined for downtown to easily transfer to another route. Unfortunately it can also add to the travel time for such users of the system who find it necessary to travel to the downtown and then out again on a separate route to reach their destination. At the present time, about twenty-five percent of StarTran riders need to transfer to complete their trip on the system.

The downtown-oriented strategy is most effective when the major transit destination is the urban core and when the system structure allows for comparable route length (i.e., all the routes take about the same time to operate from and to the downtown.)

- **"Radial Pulse System" with a Non-downtown Site as Single Hub** – Though less common, some transit operations employ a "radial pulse system" approach that does not use downtown as its hub.

  As part of any future route analysis for StarTran, such a non-downtown based hub approach should be given serious consideration. This recommendation is based on a changing local transit market, the urban growth pattern of the past several decades, and the expansion of off-street parking capacity in Downtown Lincoln.

While Downtown Lincoln remains a major center of employment, StarTran – and its ridership based – might be better served if the Downtown core did not serve as the system's focal point. Some "non-downtown" sites where a StarTran hub (i.e., multi-modal transfer point) could potentially be located include:

- ❑ Adjacent to or integrated with the University of Nebraska-Lincoln Main Campus
- ❑ Antelope Valley Project Area/East Downtown Area
- ❑ Near 48th and O Street

Even if the main StarTran hub were to be shifted out of the core, Downtown would still be served by transit. Shuttle buses and/or regular routes could still provide service to the Downtown core from the newly located hub.

- **"Radial Pulse System" with Multiple Hubs** – A third derivation on the "radial pulse system" approach calls for several locations to serve as StarTran hubs. Given the system's present size and service level, it is probably that there would be no more than two such operational hubs. Downtown and another location to the east could possibly be identified as transit service centers and operate in tandem as part of an overall dual-centered pulse system.

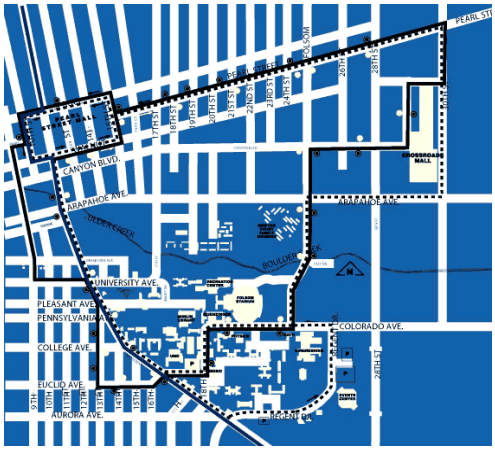
- **Grid System** – A relatively common transit service design is the "grid system." This approach is often used in larger communities having a checkerboard pattern of streets – a pattern often found in mid-western cities. Buses operate in a shuttle fashion along major streets, typically in a north-south and east-west fashion. Where the route crisscross, transit passengers transfer between routes in order to reach their destination. This service design can add to the overall number of transfers and can involved increased operating and capital funding.

- **Modified Grid System** – In an effort to reap the benefits of several approaches, many public transit systems operate a "modified grid system." This approach combines the grid system approach with the radial system design. The majority of the routes operate following the traditional radial approach around a single hub, with a small number of routes crisscrossing them as these other routes operate following a more linear pattern (i.e., shuttle style.)

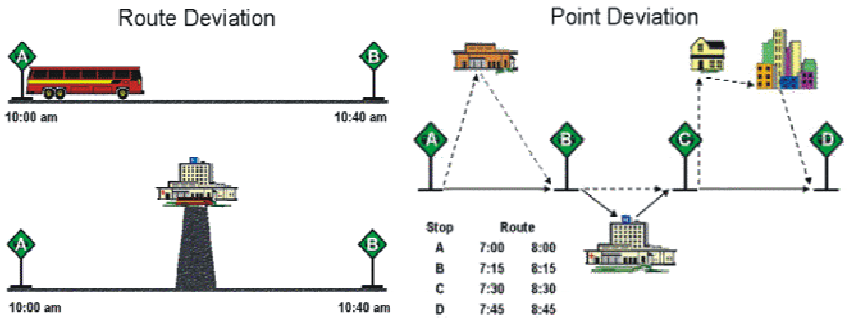
The City-County Comprehensive Plan indicates this approach should be used and enhanced by StarTran in providing fixed route services to Lincoln. Specifically, the Comprehensive Plan states that in the long term, StarTran should "Expand the modified grid system while maintaining the productive elements of the radial system serving Downtown. Reallocate less productive radial service into grid services by targeting emerging mixed-use activity centers and corridors." StarTran has worked to implement this program objective and presently uses the "modified grid system" on a limited basis, with the 48th Street Shuttle providing the "grid service" over the main radial pulse network.

- **Multidestinational System** – A more recent but less commonly used approach is called a "multidestinational system." This approach eschews hubs and operates more like a grid system, although the routes do not follow a rigid grid pattern. Routes connecting major activity centers typically follow more meandering patterns (than do routes as part of grid systems) and will penetrate residential neighborhoods and connect with smaller centers along the way. As with the grid system, a higher incident of transferring can occur as passengers use a network of routes to reach their destination.

  This route design approach is relatively new in the realm of transit operations with a handful of providers installing such services in the 1980's. The most prominent larger cities using the multidestinatonal system include San Diego, Portland (OR), and Sacramento. Also to a certain degree, the City of Boulder's "Hop-Skip-Jump-Bound-Dash-and-Stampede" service employs many of the mutlidesintational concepts. The Boulder system uses a combination of route types that operate in various configurations and varying route lengths.



- **Route Deviation** – Though the "route deviation" approach has been around since the late 1970's, its implementation has been very limited. Route deviation services have generally only been used in rural, suburban, or small urban areas.



Under this approach, fixed route transit vehicles are allowed to "deviate" from their normal route for a short distance to pick up a rider who has contacted a central dispatcher. In most cases, prospective passenengers must call in advance – anywhere from an hour to a full day – to request the service. The route deviation approach presents scheduling problems for the transit operator and can prolong the trip time of other passengers utilizing the regular fixed route service.

- **Demand Responsive** – As the name implies, "demand responsive" transit providers are characterized by flexible routing and scheduling operating "in response" to specific requests for service. Vehicles typically provide door-to-door service, much as a traditional taxi service might provide. Individual passenger trips are often combined in order to increase the efficiency of the operation. Advanced requests for service are required, with such calls needing to be made any where from a day to a week in advance. "Demand responsive" operations are often associated with the type of service provided to persons with special mobility needs (i.e., generally unable to use regular fixed route services because of physical, mental, or other mobility conditions.)

- **Other Service Considerations** – In addition to reviewing the potential major reorientation of StarTran system, this analysis may wish to address a number of other specialized service issues:

    - *Downtown Loop* – The present "Downtown loop" route operated by StarTran was put in place in 1976. At the time of its installation, it was intended to expand the geographic area covered by all of the major StarTran routes within Downtown. As alterative service delivery approaches are assessed in the future, it would be timely to also consider the viability of continuing the Loop as it is

currently operated. While it may be found to be the best possible routing, its configuration should be reexamined in light of any potential service changes that may be proposed.

- *UNL Evening Services* – Depending upon what service options are found viable for the Downtown area (including the "Shuttle" service being examined as part of the Downtown Master Plan process), it may also be valuable to consider a service in the Downtown/UNL area to serve student needs.

Activity Time Line and Responsibility: *PHASES I & II*

(Near term service description to be provided.)

Longer Term System Redefinition

As noted earlier in this section, a "StarTran Operational Action Plan" should be prepared and presented to the Mayor and other elected officials no later then 18 months from the acceptance of this the MMT Report.

The "StarTran Operational Action Plan" is a critical element in defining the future role to be played by StarTran – and transit in general – in the overall performance of Lincoln's transportation system. If serious consideration is to be given to significantly revamping StarTran operations, this effort should begin immediately. It will take time and resources to effectively identify how StarTran services may be altered and additional time and resources to make the changes happen.

The primary responsibility for formulating the "StarTran Operational Action Plan" logically falls upon the staff of StarTran. As Lincoln's principle provider of

transit services, they posses the most immediately understanding of how the StarTran presently functions and of the constraints and opportunities under which they work. In pursuing the development of this Action Plan, StarTran staff should be initially charged with the task of prepared a detailed work program showing how and when they would complete the Plan.

Alternatively, a staff member from another Division within the Public Works and Utilities Department or another agency could be assigned the role of Project Manager. This person would need to work closely with StarTran staff to ensure the technical factors of route restructuring and scheduling design are being properly considered. Under this approach, StarTran staff would then play a more subordinate role in the completion of this analysis but still remain intimately involved in the review process.

In either case, supporting this endeavor should be staff members from other city and county departments and agencies, and other divisions within the Public Works and Utilities Department.

Community oversight of this analysis should be broadly representative, and include elected officials, StarTran Advisory Board Members, StarTran users, non-StarTran users from the Lincoln area, and representatives from other public and private entities with a direct interest in the long term services provided by StarTran.

Given the technical nature of this review, outside professional assistance is likely to be necessary. This assistance should be used in identifying potential markets, defining realistic service delivery options, and crafting a detailed operational plan for implementation by StarTran following adoption of the Plan by the elected officials. Public involvement activities must be an integral part of this analysis, and should be undertaken throughout the course of the review.

Activity Resource Needs:

(Near term service description to be provided.)

Longer Term System Redefinition

As noted above, the detail and technical character of this activity is likely to require outside assistance. Depending upon the final scope of work, the resources need to complete a StarTran Operational Action Plan could range from $80,000 to $100,000 in total, A funding source to cover this cost would need to be identified as part of the City's budget process. Ideally some funds could be found to begin the analysis during Fiscal Year 2004-2005, with completion of the analysis by late calendar year 2005.

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